UNITED
NATIONS

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Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/84
29 September 1997

Original: ENGLISH

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Fourteenth session, Geneva, 8-18 December 1997, agenda item 2 (c))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Other packaging and IBC matters

Testing requirements for infectious substances packaging

Transmitted by the Expert from the United States

Introduction

1. The purpose of this paper is to clarify the current puncture test criterion for infectious substances contained in 6.3.2.6 (a) and (b) of the UN Recommendations (10th Revised Edition).

Background

2. In the 5th revised edition of the Recommendations, the criterion for passing the puncture test for infectious substance packagings read as follows:

"There should be no leakage from the inner packagings."

3. Based on a proposal by the expert from the UK in ST/SG/AC.10/C.2/R.637, the criterion in the 6th revised edition Recommendations was revised to read:

> "Following each impact, penetration of the secondary packaging is acceptable provided there is no leakage from the primary receptacle(s)."

Unfortunately, there is no record of the reasoning for the introduction of the change.

4. This wording is not clear in relation to packaging tests where the secondary packaging remains intact, particularly whether it is acceptable for the primary to fail in such an instance.

5. The expert from the United States believes that the criterion for the puncture test should be consistent with the criteria for the drop test. Namely, there should be no leakage from the primary receptacle(s).

Proposal

6. The expert from the United States, therefore, proposes the following revision to the last sentence in 6.3.2.6 (b) of the Recommendations:

> *"Following each impact, there must be no leakage from the primary receptacle(s)."*

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ST/SG/AC.10/C.3/1997/85
29 September 1997

ENGLISH
Original: FRENCH

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TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the
Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 2 (c))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Other packaging and IBC matters

Large packagings

Transmitted by the Expert of France

At the thirteenth session of the Sub-Committee, during the consideration of document ST/SG/AC.10/C.3/1997/35/Rev.1 on large packagings, France proposed that large fibreboard and wood packagings should be subject to a provision identical to that contained in paragraph 6.6.4.2.8 setting out the requirements for liners of flexible large packagings.

The proposal was not adopted at that session and France was invited to submit a proposal in writing to the Committee (ST/SG/AC.10/C.3/26, para. 57).

Proposal

This proposal uses the paragraph numbering in document ST/SG/AC.10/C.3/1997/35/Rev. 1, Annex B, as amended by document ST/SG/AC.10/C.3/26/Add.2.

1. Insert a new paragraph 6.6.4.4.9 for large fibreboard packagings, with the same wording as paragraph 6.6.4.2.8;

"6.6.4.4.9 Where used, a liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the large packaging and the intended use. Joins and closures shall be sift-proof and capable of withstanding pressures and impacts liable to occur under normal conditions of transport."

2. Insert a new paragraph 6.6.4.5.11 for large packagings in wood, with the same wording as paragraph 6.6.4.2.8 (see 1 above).

Justification

The provisions for large packagings are based on those for IBCs. As a result, paragraph 6.6.4.2.8 concerning flexible large packagings reproduces almost verbatim the text of paragraph 6.5.3.2.10 on IBCs.

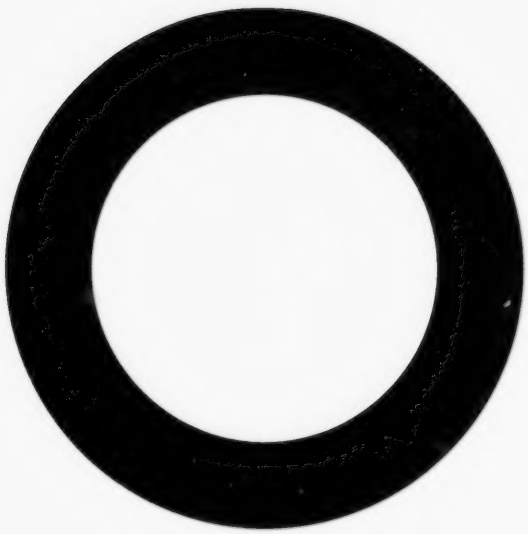
The same provision has also applied for a long time to fibreboard and wood IBCs, as can be seen in paragraphs 6.5.3.5.6 and 6.5.3.6.8, respectively, of the tenth edition of the model regulations. Because of a misunderstanding at the last session of the Sub-Committee, the French proposal was taken to be a new provision, whereas it actually involved old provisions in the case of fibreboard and wood IBCs.

For the sake of consistency, it would seem preferable to insert these provisions on liners also in the chapters on large packagings in fibreboard and wood.

This same principle was in fact applied by the Sub-Committee in adopting the United States proposal to add provisions on integral pallet bases: paragraphs 6.5.3.5.7 to 6.5.3.5.11 and 6.5.3.6.9 to 6.5.3.6.13, on IBCs, reproduced in 6.6.4.4.4 to 6.6.4.4.8 and 6.6.4.5.6 to 6.6.4.5.10 for large packagings (see document ST/SG/AC.10/C.3/26/Add.2).

Moreover, from a pragmatic standpoint, these provisions are far from unnecessary, as there is nothing to prevent a manufacturer from marketing a fibreboard or wood large packaging fitted with a liner, and it would be strange if the model regulations did not provide for this possibility.

It will be seen that paragraph 6.6.4.4.3 of the newly-adopted text implies the possible presence of such a liner as it stipulates that metal staples shall be protected so that the liner cannot be abraded or punctured by them.



UNITED
NATIONS

ST

Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/86
30 September 1997

Original: ENGLISH

COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the
Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 4 (b))

GLOBAL HARMONIZATION OF SYSTEMS OF CLASSIFICATION AND LABELLING OF CHEMICALS

Physical hazards

Threshold for Self-Heating Substances

Transmitted by the Observer from New Zealand

Introduction

At the thirteenth session of the Sub-Committee New Zealand present an informal paper INF.3. This paper outlined a number of concerns relating to the classification of Flammable and Reactive Substances in the proposed Globally Harmonised System. During the Working Group meeting, New Zealand was invited to present formal papers to the fourteenth session of the Sub-Committee.

New Zealand is currently developing Regulations for the Hazardous Substances and New Organisms (HSNO) Act. This Act implements the concepts and philosophy of the Globally Harmonised Chemical Classification System to New Zealand's Domestic Legislation. While developing these Regulations, we discovered some serious problems in applying the current UN transport classification criteria to the controls needed for worker, consumer and environmental safety. The difficulty arises from the UN classification's use of packaging to modify the risk.

As reported in ST/SG/AC.10/C.3/26 the Working Group agreed that the cut off value for self heating substances

Self-heating substances		
Hazard level	**Criteria**	**Test Methods**
High danger	Not applicable	Not applicable
Medium danger	Positive result in a test using a 25 mm sample cube at 140 °C	UN Test N.4 Manual of Tests and Criteria (par. 33.3.1.6.4.3)
Low danger	(a) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C and the substance is to be packed in packages with a volume of more than 3 m^3; (b) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C, a positive result is obtained in a test using a 100 mm cube sample at 120 °C and the substance is to be packed in packages with a volume of more than 450 litres; c) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C and a positive result is obtained in a test using a 100 mm cube sample at 100 °C	UN Test N.4 Manual of Tests and Criteria (par. 33.3.1.6.4.4)

Proposal

It is proposed that this lower cut off level be simplified to:

The threshold or cut off value be simplified to :

A substances is a self heating substance if in the 100 mm cube at 140°C it either spontaneously ignites or experiences a 60°C rise in temperature during the 24 hour testing time.

It is further proposed that this be placed in a hazard level below the currently adopted criteria to clearly differentiate transport risks from risks involved in other parts of the life cycle i.e. storage

Justification

The current values as reported in section 3.2 of the Annex to ST/SG/AC.10/C.3/26/Add.3, are a mixture of thresholds and exemptions (or controls). The Harmonised Classification system is to be based on a substances intrinsic hazardous properties. Much of the current criteria is linked to package size.

The Recommendations for Transport include considerations of the substance as packaged for transport, and do not enable end users or regulatory authorities to identify the intrinsic hazards that might apply separate from packaging. The above proposal removes the uncertainty that packaging considerations may impose as to the intrinsic hazard. The proposed cut off value above would ensure that the potential intrinsic hazard of the substance was easily identified. We envisage that where appropriate, the substance could have a Box 2 type of classification as outlined in ST/SG/AC.10/C.3/68.

The Manual of Test and Criteria indicates that the test temperatures and sizes relates to the self heating temperature of $27m^3$ of charcoal. This is a relatively small volume for storage purposes being only 3m × 3m × 3m. It is questionable whether this is an appropriate standard to base storage contols.

Recommendation

That the working group adopt the proposed additional hazard level.